

PLEASANT HOURS

PAPER FOR OUR YOUNG FOLK.

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O Day of Rest and Gladness.

O day of rest and gladness,
O day of joy and light,
O balm of care and sadness,
Most beautiful, most bright!
On thee the high and lowly
Before the eternal throne
Sing, holy, holy, holy,
To God the Three in One.

On thee, at the creation,
The light first had its birth;
On thee for our salvation
Christ rose from depths of earth
On thee our Lord victorious
The Spirit sent from heaven;
And thus on the most glorious
A triple light was given.

To-day on weary nations
The heavenly manna falls;
To holy convocations
The silver trumpet calls.

about 140,000 cubic yards of masonry and concrete in the foundation and piers.

The main piers, three in number, consist each of a group of four masonry columns, faced with granite, 49 feet in diameter at the top, and 36 feet high, which rest either on the solid rock or on concrete, carried down in most cases by means of caissons, of a maximum diameter of 70 feet, to the rock or boulder clay, which is of almost equal solidity.

The stresses to be provided for are those arising from the weight of the structure itself, the rolling load, and wind, as well as from change of temperature.

The rolling load had been taken as one ton per foot run on each line of rails over the whole structure, or a train on each line consisting of sixty short coal trucks of fifteen tons each, weighing in the aggregate 142 tons.

The wind pressure provided for is a pres-

take the strains, and the vertical and horizontal bracing of the sides keep them stiff against the effects of their own weight and wind respectively.

The Forth Bridge is a most important link in the direct railway connection between Edinburgh, Perth and Dundee.

OUGHT A BOY TO USE TOBACCO?

PERHAPS some boy will say: "Grown people are always telling us, 'This will do for men, but it is not good for men.'"

Tobacco is not good for men; but there is a very good reason why it is worse for boys.

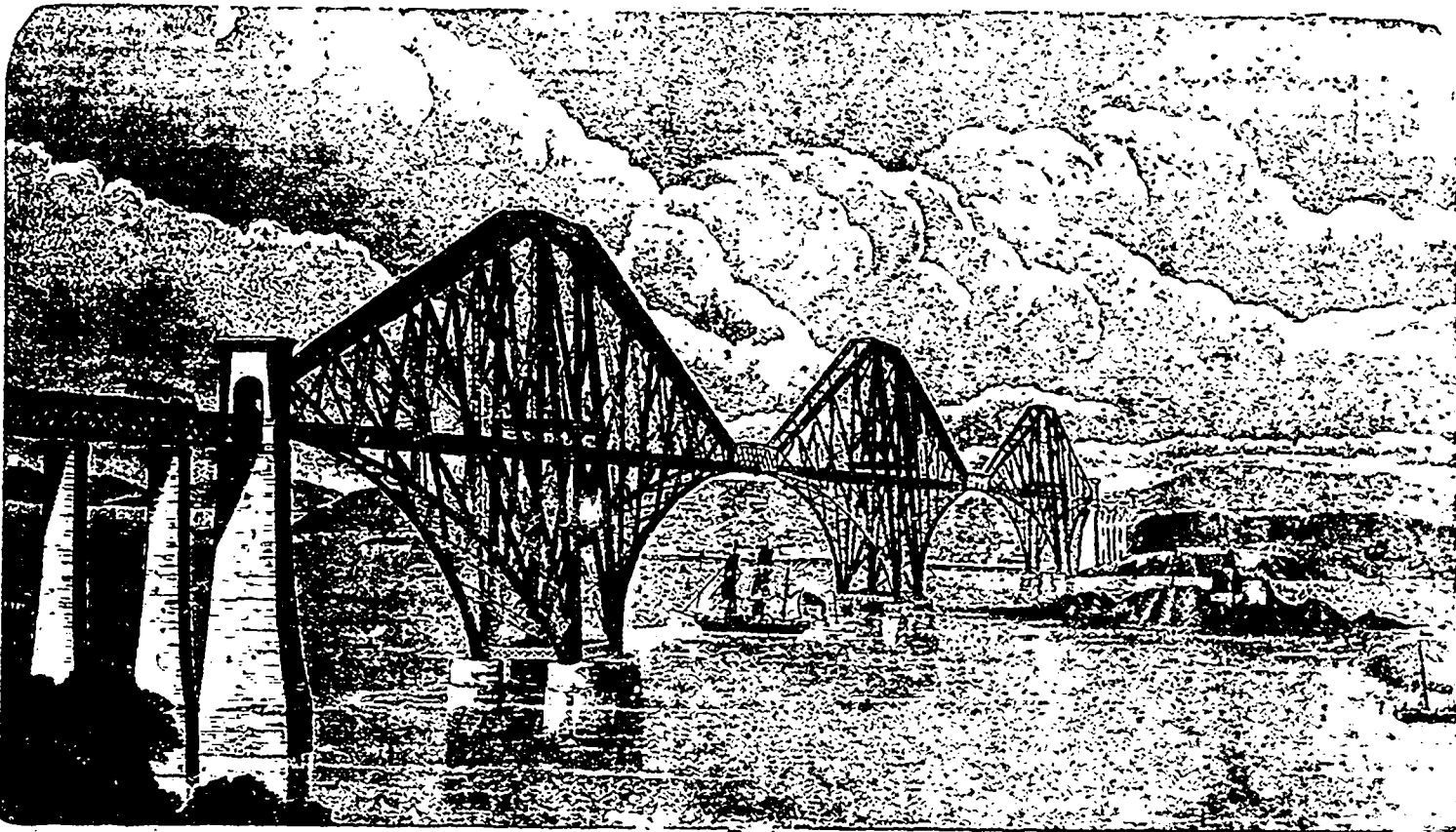
If you were going to build a house, would it be wise for you to put in the stone work of the cellar something that would make it less strong? Something into the brick-work or the mortar, the wood-work or the

quent spitting it causes is disgusting to others, and hurts the health of the chower. Tobacco, in any form, is a great enemy to youth. It stunts the growth, hurts the mind, and injures in every way the boy or girl who uses it.

Not that it does this to every youth who smokes, but it is always true that no boy of seven to fourteen can begin to smoke or chew, and have so fine a body and mind when he is twenty-one years old as he would have if he had never used tobacco. If you want to be strong and well men and women, do not use tobacco in any form.

"PAPA MADE ME DRUNK"

"These are the last words, repeated over and over again, of a little boy who recently died from the effects of whiskey.



THE FORTH BRIDGE.

Where gospel light is glowing
With pure and radiant beams
And living water flowing
With soul-refreshing streams.

THE FORTH BRIDGE.

The construction of the Forth Bridge, Scotland, is justly regarded as one of the greatest scientific and mechanical achievements of modern times. The total length of the viaduct is 8,296 feet, or nearly 1½ miles, and there are two spans 1,710 feet, two of 680 feet, fifteen of 168 feet girders, four of 57 feet, and three of 25 feet being masonry arches.

The clear headway for navigation is 150 feet for 500 feet in the centre of the 1,710 feet spans. The extreme height of the structure is 361 feet above, and the extreme depth of foundations 91 feet below the level of high water.

There are about 53,000 tons of steel in the superstructure of the viaduct, and

sure of 56 pounds per square foot, striking the whole or any part of the exposed surface of the bridge at any angle with the horizon, the total amount on the main spans being estimated at nearly 8,000 tons.

The superstructure of the main spans is made up of three enormous double cantilevers, resting on the main piers. Those on the shore sides are 1,505 feet, and that on Inch Garvie (an island fortuitously dividing the deep water space into two channels of nearly equal width) is 1,620 feet in length. The effective depth over the piers is 330 feet, and at the end 35 feet. The centre portions of the two 1,710 foot spans on each side of Inch Garvie are formed by two lattice girders 350 feet in length, 50 feet deep in the centre, and 37 feet deep at the ends.

The compression members of the cantilevers are, as a rule, formed of tubes either circular in form, or circular with flattened ends.

The tension members are quadrangular in section. The booms at their corners

nails, the walls or the chimneys, that would make them weak and tottering, instead of strong and steady?

It would be bad enough if you should repair your house with poor materials; but, surely it must be built in the first place with the best you can get.

You will soon learn that boys and girls are building their bodies, day after day, until at last they reach full size. Afterwards they must be repaired as fast as they wear out. It would be foolish to build any part in a way to make it weaker than need be.

Wise doctors have said that the boy who uses tobacco while he is growing, makes every part of his body less strong than it otherwise would be. Even his bones will not grow so well.

Boys who smoke cannot become such large, fine looking men as they would if they did not smoke.

Cigarettes are small, but they are poisonous. Chewing tobacco is a worse and more filthy habit even than smoking. The fro-

His father, an old acquaintance of mine," says A. T. Goodlove, "carried a jug of whiskey home with him from town, and gave each of his children a dram out of it. The child was brought under the control of the whiskey devil by the drink given to him, and slipped to the jug, as soon as he could do so unobserved, to get as much of the fiery liquid as his cravings called for. When found, he was lying on the floor by the jug, unable to move, and insensible. The doctor was sent for, and the boy was roused sufficiently to say, and keep saying till he died: 'Papa made me drunk.'"

But who sold papa the poison? Who licensed him to make that father a mad man and a murderer? Who sets the seal of government authority on the manufacture and sale of this deadly drink? Who are the men who countenance and approve the act, and share the blood money received for distilling and selling this beverage of perdition?